

A New Species of and Notes on Acroceridae (Diptera).¹

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An intensive study of the family Acroceridae was undertaken in order to try to determine some available material. The results proved to be so revolutionary in *Acrocera* and *Ogcodes* that a paper has been prepared dealing with those genera in considerable detail. The notes presented here are miscellaneous items which were not pertinent to the larger work.

Pialeoidea gloriosa new species.

Head black, the eyes and vertex rather thickly beset with long brown to brownish yellow hairs; antennae entirely black, their appearance similar to Fig. 12b in Cole (1919),² the second segment with numerous long hairs above, and the third segment elongate and clavate, but in this case the latter bears a group of five short setae at its apex.

Thorax and scutellum bright golden-yellow, only the lower halves of the pleura, the pteropleura, and a stripe ventrad of each anterior spiracle, brown, the whole thickly covered with long, erect yellow hair. First abdominal segment concolorous with the thorax, and bearing the same yellow hair; the remainder of the abdomen is shining, dark metallic blue-black, densely covered with short dark hairs; the entire venter apparently dark brown.

Legs brown, tarsi somewhat paler, the claws black and strong, twice as long as the pulvilli; the legs are densely covered with hairs, which are very long on the coxae, only moderately long on the femora, and short and appressed on the tibiae and tarsi.

Wings short for a fly of this size, barely exceeding the apex of the abdomen, with slightly browned membrane and dark brown to black veins. The venation is approximately the same as figured by Cole (1919, Fig. 14c) for *Ocnaca coerulea*, ex-

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² Cole, 1919, The dipterous family Cyrtidae in North America, *Trans. Amer. Ent. Soc.*, 45: 1-79, 15 pls.

cept that the posterior branch (R_5) of the third vein joins with the vein immediately behind it (M_1), so that the first posterior cell is closed and petiolate. Halteres dark brown. Squamae of only moderate size, pale yellow with darker yellow margins, the upper surfaces and margins densely clothed with pale yellow hairs which are concolorous but somewhat shorter than those on the thorax.

Length, 13 mm.; length of wing, 11 mm.; length of third antennal segment, 2 mm.

Holotype, female (apparently), Brazos County, TEXAS, Oct. 20, 1940 (R. W. Strandtmann) [Texas A. & M. College Colln.]. In am indebted to Mr. H. J. Reinhard for the loan of this interesting specimen.

The genus *Pialeoidea* was erected by Westwood in 1876 for *Cyrtus magnus* Walker from Georgia. The present specimen shows the same type of antennae, with the terminal setae, as described and figured by Westwood. Of the two species cited in Cole's monograph (1919, p. 21), *P. magna* (genotype) has the disk of the thorax bronze-black, and *P. metallica* Williston has a metallic green thorax and scutellum, with brown abdomen. Nor does any described species of the related genus *Ocnaca* have a color pattern at all like that of the present form. Specimens of the genus *Pialeoidea* must be quite rare, for Cole does not mention seeing any specimens of the above species, and I have found no records in the literature.

OPSEBIUS PTERODONTINUS O. S.

Besides the costal spur, the species is readily distinguished by the dense golden-yellow body hairs, contrasted with the whitish hairs of other eastern species. The specimens which I have seen appear to be males, and it is possible, as in *Pterodontia*, that the costal spur is a sexual character and the females are known under another name. Of the two other eastern species, *O. sulphuripes* seems to be the more likely possibility as it has the same type of wing venation (anal cell open, short third posterior cell), whereas *O. gaganus* has the anal cell closed, and a long third cell. Both differ from *pterodontinus* in having whitish body hairs, but sexual dimorphism in that respect is not impossible.

The few records indicate a rather wide distribution in eastern United States. Unpublished data: Oakwood, Ill., Sept. 18, 1928 (H. H. Ross) [Ill. Nat. Hist. Survey Colln.]; Enfield, N. Y., Aug. 4, 1923, and Top of Mt. Marcy, N. Y., Sept. 1, 1942 (Henry Dietrich) [Cornell Univ. Colln.]; Ann Arbor, Mich., Aug. 1, 1927 (N. K. Bigelow) [Univ. Mich., Mus. Zool., det. by George Steyskal]. Besides these, I have examined specimens from White Cap Mt., Maine, Canobie Lake, N. H., Amherst, Mass., and Tiverton, R. I., which were included in the records of Johnson (1925).³

OPSEBIUS SULPHURIPES Loew.

Apparently distinguished from *pterodontinus* by whitish body hairs, but there is a possibility that they are opposite sexes of the same species. New records: Urbana, Ill., Aug. 17, 1920 [Ill. Nat. Hist. Survey]; College Station, Texas, Nov. 5, 1920 (H. J. Reinhard) [Texas A. & M. College Colln.]; besides which I have examined the three specimens recorded by Johnson (1925). It is thus apparently widely distributed in eastern United States, although quite rare, for Cole (1919) records seeing only two individuals in preparation for his monograph.

OPSEBIUS DILIGENS O. S.

The specimens from Giant Forest, Calif. (J. C. Bradley) [Cornell Univ.], mentioned by Cole (1919, p. 47) as a species near *paucus* but having a closed anal cell, have been examined and may be recorded as *O. diligens*. They agree in every way with California specimens of typical *diligens* kindly sent me by Mr. George E. Bohart, but both specimens are in poor condition and rather discolored, the hairs matted, and the wing veins and membrane darker than usual.

PTERODONTIA FLAVIPES Gray (= *Pterodontia flavoscutellata* Steyskal, 1941).

Hardy (1942) recently published the above synonymy, and I agree from a study of the series before me. *Flavoscutellata* represents the male sex, in which the basal two or three abdomi-

³ Johnson, 1925, List of the Diptera or two-winged flies of New England, 326 pp. (Cyrtidae, 106-108).

nal segments are normally more extensively infuscated than in the females. Cole (1919, fig. 22) illustrated the female only, but an excellent figure of the typical abdominal color pattern of the male was given by J. L. King in an extensive paper on the life history of *P. flavipes*.⁴

I find also that the sexes differ in the typical color pattern of the legs. The males have the front femora entirely deep yellow, rarely blackened narrowly at their bases, whereas in the females the front femora are more or less extensively infuscated, varying from the basal half to all but the knees. In both sexes, the mid and hind femora are black, and all tibiae and tarsi yellow. This characteristic pattern of the legs of the males is mentioned by Westwood and Cole for *P. flavipes* and by Steyskal for *P. flavoscutellata*, and I find it is also true for the northwestern species, *P. misella*.

Some variation in color pattern should be recorded. On the dorsum of the abdomen in the males, the first segment is entirely black; the second is usually entirely black but may have two orange triangles along the hind margin, with their apices directed forward, their size varying from mere traces of color to large spots nearly one third the length of the segmental dorsum; the third segment is chiefly orange yellow with a median black stripe which varies in occupying from perhaps one seventh to one fourth the width of the segment, touching both fore and hind margins of the segment in equal breadth except in one specimen where it narrows slightly and fails to touch the hind margin; the fourth segment is entirely orange in some examples, but in others there is a narrow median stripe, linear to fusiform, as figured by King (1916, pl. 15, fig. 2).

The abdominal color pattern of the females which I have seen agrees fairly well with Cole's figure, and seems to vary less than in the males. The fourth segment is entirely yellow and the second and third are predominantly so, each of the latter having a small black spot along the fore margin of the segment, the black produced posteriorly on the median line, though never reaching the hind margin of the segment. Two females (Mich., N. Dak.) have the second segment broadly black.

⁴ Annals Ent. Soc. Amer., 9: 309-321, pl. 15, fig. 2, 1916.

It may also be noted here that the number of terminal setae on the antennae is subject to considerable variation, and that the usually stated number of three setae is not always true. Neither are the numbers on right and left antennae always the same, though breakage may in some cases have accounted for this. In the following list the first number is for the right antenna, the second for the left:—males, 3-3, 2-3, 2-3, 4-5, 6-6, 3-3, 7-7; females, 2-3, 4-3, 3-2, 3-4, 4-3, 2-3.

Variation in size:—males, 5.5-10.5 mm.; females, 5-9 mm.

New records of distribution: ♂, "Ill." [Acad. Nat. Sci. Phila.]; ♂, Algonquin, Ill., July 26, 1895 [Ill. Nat. Hist. Survey Colln.]; ♀, Brunswick, Ga., Sept., 1881 [Acad. Nat. Sci. Phila.]; ♀, Cheboygan Co., Mich., July 25, 1927 (L. K. Gloyd) [Univ. Mich., Mus. Zool.]; ♂, Cheboygan Co., Mich., July 11, 1941, found dead in spider web (C. W. Sabrosky) [Author's Colln.]; 4 ♂, 1 ♀, Cheboygan Co., Mich., July 2, 1939 (David M. Gates), Aug. 16, 1936 (E. A. Hutz), June 27, 1932 ("H. F."), July 5, 1934 (H. B. Hungerford), and July 22, 1940 (R. I. Sailer) [Snow Colln., Kans. Univ.]; ♀, Valley City, N. Dak., July 17, 1917 (P. W. Fattig) [Fattig Colln.]; ♂, Paris, Maine, June 15, 1938 (C. A. Frost) [Boston Soc. Nat. Hist.]. Besides these, I have seen specimens from Boothbay Harbor, Maine, Hampton, N. H., and Lunenburg, Mass. [Boston Soc. Nat. Hist.] which were included in the records published by Johnson (1925).

PTERODONTIA MISELLA O. S.

Pterodontia misella Osten Sacken, 1887, Western Diptera, p. 277 (Oregon). (♂).

Nothra americana Bigot, 1889, Ann. Soc. ent. France, p. 320. (Wash.). New synonym. (♂?).

Pterodontia johnsoni Cole, 1919, Trans. Amer. Ent. Soc. 45: 42 (Wash., Idaho). New synonym. (♀).

Cole's monograph does not sharply distinguish *P. misella* and *P. flavipes*, but material before me indicates that these are two distinct species. They apparently occupy quite different areas, if we may risk a statement from limited material, with *flavipes*

ranging from Georgia to North Dakota, whereas all records of *misella* are from the Pacific Northwest (Wash., Ore., Idaho, B. C.).

The males of the two species are quite similar, as Cole noted, particularly in the color pattern of the abdominal dorsum. I find also that the color of the legs in both sexes follows that noted for *flavipes*. The wing venation is similar, though in the males the costa is not always as strongly produced into a spur as in *flavipes*. The chief distinguishing features are as follows:

P. flavipes

1. Large species: average size 7.58 mm., range 5-10.5 mm.
2. Scutellum yellowish to brown, rarely brownish black, always distinctly lighter in color than the thorax.
3. Male abdomen: dorsum of fourth segment usually orange, or with only a narrow median vitta; fifth segment entirely orange.
4. Female: abdomen more predominantly orange than in the male (Cf. Cole, 1919, Fig. 22).
5. Eastern species (Ga.-N. Dak.).

P. misella

1. Smaller species: size of nine examples consistently 5-5.5 mm.
2. Scutellum coal black, occasionally slightly orange at the extreme apex, usually so dark that it does not sharply contrast with the thorax as in *flavipes*.
3. Male: dorsum of fourth segment usually with a distinct median vitta, and sometimes a slight streak on the fifth.
4. Female: abdomen entirely black, or pitch black.
5. Pacific Northwest, from available records.

Cole (1919, p. 42, 43) suggested that Bigot's species might be the same as *P. misella*, and after the study of *flavipes* vs. *misella*, I so refer it to synonymy. *P. johnsoni* proved to be the dark female of the sexually dimorphic *misella*.

Additional records of *P. misella*: 6 (5 ♂, 1 ♀), Lake Cushman, Mason Co., Wash., July 29 and Aug. 6, 1919 (F. M. Gaige) [Univ. Mich., Mus. Zool.]; 1 ♂, "Wash." and 2 (♂, ♀), Vancouver, B. C., July 11, 1929 (H. H. Ross) [Ill. Nat. Hist. Survey Colln.].

PTERODONTIA ANALIS Westw. and *P. vix* Tns.

Cole placed Townsend's species from Southern California as a synonym of *P. analis* Westwood, described from Georgia. I

have seen no specimens which might be referred to either name, but from present information on the distribution of species in this family, I should question the synonymy. Species from those widely separated areas are probably distinct, although superficially they may be quite similar.

Synonymic Notes on Some Species of *Cuterebra* (Diptera; Cuterebridae).

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Townsend (*Insecutor Inscitiae Menstruus* 4: 25, 1917) considered both *Cuterebra horripilum* Clark (An essay on bots of horses and other animals, London, 1815) and *Cuterebra abdominalis* Swenk (N. Y. Ent. Soc. Jour. 13: 182-183, 1905) as synonyms of *Cuterebra cuniculi* Clark (Linn. Soc. London, Trans. 3: 299, 1797). He also considered *Cuterebra albifrons* Swenk (N. Y. Ent. Soc. Jour. 13: 183-184, 1905) to be identical with *Cuterebra princeps* Austen (Ann. and Mag. Nat. Hist., Ser. 6, 15: 393-395, 1895).

Mrs. Myron H. Swenk kindly made available Dr. Swenk's collection and a study was made of his types. The collections of the U. S. National Museum, American Museum of Natural History, Museum of Comparative Zoology, and Cornell University Entomological Museum were also studied. Undoubtedly Townsend was correct in considering *abdominalis* Swenk as identical with *horripilum* Clark, and *albifrons* Swenk as synonymous with *princeps* Austen. Swenk, himself, in arranging his collection, had placed his type specimens in with the specimens of the species with which they are synonymous. This decision was easily substantiated by comparing the species.

However, *horripilum* Clark and *cuniculi* Clark cannot be considered identical. Clark separated the two species mainly on the large, black shield present on the mesonotum of *cuniculi*, but absent on *horripilum*. This character was well figured by him. Bau (Konowia 10: 205-206, 1931) considered this black coloration on *cuniculi* to be due to the thoracic hairs being stuck